



# U.S. DEPARTMENT OF ENERGY

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## **Groundwater Protection Enhanced with Record Number of Wells Drilled**

*Recovery Act Funding Brings Additional Resources for Accelerated Cleanup*

RICHLAND, WASH. – Thanks to the American Recovery and Reinvestment Act (Recovery Act) funding, the [U.S. Department of Energy](http://www.doe.gov) and its prime contractor [CH2M HILL Plateau Remediation Company](http://www.ch2mhill.com), have drilled a record high 273 wells in fiscal year 2010 at the Hanford site in southeast Washington State.

Since April 2009 these groundwater wells have been installed to meet important groundwater cleanup goals that will expand remediation efforts and reduce environmental threats to the Columbia River. Prior to Recovery Act funding, only 66 wells were expected to be installed with the resources available.

“Putting these wells in place puts us one step closer to meeting our overall groundwater cleanup goals,” said Matt McCormick, Manager of the DOE Richland Operations Office.

CH2M HILL completed the task using \$15.4 million in Recovery Act funding, which provided the opportunity to bring in 9 subcontractors, including 8 small businesses to meet the contract well-drilling goals.

Using Recovery Act funding, 265 wells will be installed and 280 wells that are no longer of service will be decommissioned.

“Well drilling supports characterization, groundwater remediation, and long-term monitoring of the subsurface and groundwater underlying the Hanford Site,” said Dyan Foss, CH2M HILL vice president of Soils and Groundwater. “The wells provide access for the various techniques we’re

using to not only prevent contamination from reaching groundwater, but to help maximize the amount of groundwater that can be treated.”

Wells are being installed across the site for several purposes:

- In pump-and-treat systems — to extract contaminated groundwater and inject cleaned groundwater
- In locations where in situ redox manipulation and bio/chemical remediation is used — to inject treatment substances that will immobilize contaminants
- Groundwater sampling
- Monitoring groundwater plumes in the 100 and 200 Areas.

Prior to the mid-1980s some strontium-90, a radioactive isotope, had seeped into local groundwater from liquid waste disposal cribs and trenches that received cooling water from Hanford’s N Reactor and its spent fuel storage basins. When pump-and-treat technology was not effective in cleaning up the contamination, another remedial approach, creation of an apatite barrier, was tested beginning in 2006.

Of the 273 wells drilled, CH2M HILL recently completed the installation of 171 new wells along the shoreline of the Columbia River. The wells will help protect groundwater by allowing for the future extension of a chemical barrier in the soil to 2,500 feet.

The wells will be injected with a solution containing apatite-forming chemicals to create a permeable reactive barrier in the soil. The mineral apatite chemically binds with the strontium-90, halting its migration and allowing it to decay while permitting groundwater to pass through.

“The chemical barrier holds the contaminants in place long enough for natural radioactive decay to occur,” said Dyan Foss, CH2M HILL Vice President of Soil and Groundwater Remediation. “With Recovery Act funds, we’re able to accelerate this remediation effort.”

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